

the disease. The irritable state of the stomach, and the great pain in the region of the kidney, which immediately followed, did not materially disturb the healthy condition of the pulse, skin and tongue; even coma, attended with stertorous breathing did not affect them. I can think of no other disease that would produce a similar set of symptoms. Hence their importance and their specific character.

There are other facts and views connected with this case, which give to it additional interest. It will be seen that the left kidney remained unaffected during the process of the destruction of the other, and on post mortem examination, was found atrophied, and of course its function destroyed. I have since learned, that about forty years ago, this patient was sick for a long time, and the urinary organs were the parts affected. Her particular symptoms, the friends now living cannot recollect. The probability is, that the left kidney was destroyed at that time. Whether the right kidney sympathised with it then, I cannot learn, but its function was continued; therefore we may infer that, had the left kidney been in a healthy condition at the time of her last sickness, it would have performed the function of secretion, and the patient would have survived the existence of the disease. We also infer that acute nephritis of one kidney may, and does often occur, and even destroy the function of the organ, without exhibiting any fatal symptoms, not even enough to lead to the detection of the disease. Suppression would not take place, so long as one kidney performed its function. Coma, which we suppose is induced by impure quality rather than an undue quantity of the blood, and which depends on suppression, would not supervene. The urinous odour would be wanting, and the irritable stomach and the constipation would indicate various diseases, while the pulse, skin, and tongue would be no direct guide. Hence it will appear that it is only complete, or nearly complete suppression that would lead to the suspicion of the existence of the disease. It will appear also, that when the disease is sufficiently developed to be detected, the prognosis must be unfavourable.

Is it not an interesting fact, that in the foregoing case, the right kidney should perform double the secretion it was intended by nature to perform, and continue it for forty years without becoming diseased?

ART. IX.—*Report of Cases Treated in the Baltimore Alms-House Hospital.*
By SAMUEL ANNAN, M.D., Senior Physician to the Institution.

CASE I. *Hypertrophy and Dilatation of the Heart—Valvular Disease.*
—R. A., ætat. 68, admitted April 23, 1840. Her health for the most part has been good. When she caught cold she was afflicted with slight rheumatic pains, ever since she was eighteen years of age. Eight or nine years

ago had something of the dropsy. Her abdomen, feet and legs were swelled, but she was soon cured. During seven years past has observed that on walking fast up stairs, or up a hill, her breathing became laborious. In March, 1839, her respirations became constantly difficult. Last autumn was first troubled with a short, hacking cough, which still continues. She now expectorates a little viscid mucus; respiration forty-four in the minute; countenance anxious; lies and sits with her mouth open, and her tongue projecting forwards between her teeth and lips, and pressing upon the lower lip, which it pushes outwards considerably; abdomen, arms and legs are swelled from dropsical effusion; restless at night, except when she takes opium; cannot lie in the horizontal posture, but has to be supported by pillows almost erect; appetite good; bowels regular. On examination by percussion, the left side of the chest was found to be dull over the lower half; this was when she was in the semi-erect position; with the stethoscope, the impulse of the heart was observed to be not increased; both the normal sounds were entirely obscured by a loud saw murmur, which had taken their place, and for the most part but one sound could be heard. Every four or five beats, however, there was an interval, during which one small and feeble stroke, and occasionally two, having no murmur connected with them, could be perceived; there were sixty-three of the first kind, and twelve of the latter, in the minute; the pulsations of the artery at the wrist, corresponded exactly with the beats of the heart; there was low and indistinct bronchial respiration at the middle and lower parts of the left lung; at the top the respiratory murmur was loud and clear; all over the right side, and at the top of the left there was sibilus, which could be heard only during expiration; the expirations were loud and very protracted; the inspirations were very short, and much less audible; the saw murmur of the heart could be heard over all the space which was dull on percussion, and also at the top of the sternum. On the morning of the 19th of May, the nurse of the ward observed that her difficulty of breathing was greatly increased; she was forced to sit on the side of the bed, and lean forward on a small table; she expired on the following morning.

Post mortem examination eight hours after death. *Exterior.*—Universal Anasarca.—*Thorax.*—Both sides of the chest were filled with serum. The heart was more than twice the ordinary size. It was the left ventricle that was hypertrophied, the walls being double the usual thickness. It was also dilated. All the other cavities were dilated to at least twice the natural dimensions. Both auriculo-ventricular orifices were enlarged. The mitral valve was very much thickened and indurated, and there was considerable ossific deposit at the base of the posterior division. The sigmoid valves of the aorta were thickened and ossified, and the one adjacent to the mitral valve, to the extent of being immovable. The aorta was greatly dilated, and nearly the entire inner surface of the ascending aorta and the arch was rendered rough by large and small plates of bone. The opening

from the heart was very large. The lungs were compressed and the larger bronchial tubes were red.

Abdomen.—There was a large quantity of serum in the sac of the peritoneum. The mucous coat of the stomach and small intestines was red, from congestion of the large veins. The liver and kidneys were black with accumulation of venous blood; and from the former it could be squeezed as from a sponge.

Remarks.—The case which I have given confirms the views of Hope, Williams, and Elliotson, relating to the physical signs of valvular disease. Both sounds of the heart were obscured by the saw murmur. The rough surface of the semilunar valves of the aorta, over which the blood passed during the ventricular systole, produced that part of the murmur which had taken the place of the first sound; and the regurgitation from the aorta, the opening being enlarged, and the valves nearly incapable of action, caused that which had destroyed the second sound. The thickening, induration, and ossification of the mitral valve, doubtless assisted, in some degree, in augmenting the loudness of the unnatural murmur. The auriculo-ventricular orifice being enlarged, and consequently not obstructing the blood in its passage from the auricle to the ventricle, there could not be much, if any, addition to the murmur accompanying the ventricular diastole. But the regurgitation which occurred during the systole, from the ventricle into the auricle, must have rendered the first part of the murmur more audible. The anomalous murmurs produced in these two modes, were so blended as to cause but one continuous sound. The roughness of the inner surface of the aorta must have increased the murmur along the sternum.

Disease of the aortic valves, we may safely suppose was the primary change. Regurgitation into the ventricle would produce dilatation and hypertrophy; while the same cause would produce dilatation of the left auricle. The obstruction to the passage of the blood from the lungs to the left side of the heart, must necessarily dilate the right ventricle and auricle. Congestion of the viscera would ensue; and we thus have explained the venous engorgement of the mucous membrane of the lungs, stomach, and intestines, and also of the liver and kidneys. The dropsical effusion was brought on by the same obstruction of the circulation, causing congestion of the capillary system. This effusion must have been greatly increased in quantity during the night preceding that of her death. This is shown by the embarrassment of the respiration having become so great that she was compelled to sit on the side of the bed and lean forward on a table. In this position the abdominal muscles were greatly relaxed, and the diaphragm was allowed to descend to its utmost limit; of course followed by the fluid in the thorax; by which means the upper part of both lungs was freed from compression, and the air suffered freely to enter.

CASE II. *Dilatation of the Heart.*—*Valvular Disease.*—J. C., ætat. 55,

admitted March 2, 1840. Habits somewhat irregular; caught cold about Christmas, and ever since has had a cough, with copious expectoration of a thick, yellow matter. His breathing became short and laborious about the last of January, and is getting worse; chest dull on percussion over the upper half of the right side, and under the clavicles on the left side; bronchial respiration and bronchophony at the same parts; better marked under the clavicles, and especially on the left side; pectoriloquy at the top of the scapula on the right side; impulse of the heart somewhat increased, and a loud saw murmur can be heard, accompanying or rather taking the place of the second sound, which it entirely obscures. The pulse is a little accelerated and feeble; tongue pretty clean; emaciation considerable; face pale; has been treated with palliatives. On the evening of April 13th, was seized with great difficulty of breathing, became rapidly worse, there being great prostration, and a very small, feeble pulse, and he died on the morning of the 14th.

Post-Mortem, 24 hours after death. Thorax.—The heart was enlarged to double the ordinary size. This arose chiefly from dilatation of the left ventricle. Its walls were but slightly thickened. The right auricle was greatly distended by a coagulum of blood. The ventricle of the same side was nearly empty. The pericardium contained about four ounces of serum. The anterior division of the mitral valve was very much thickened, and indurated; and at its base, where it is attached to the heart, there were a few spiculae of bone. The posterior division was slightly thickened. The left auriculo-ventricular opening was somewhat enlarged. The sigmoid valves of the aorta were ossified so as to be immovable. Their whole substance was filled with osseous matter which projected in rough points on both sides. The orifice of the aorta was contracted so that the forefinger filled it. The aorta was a little rough in a few places at its beginning. The right side of the heart was normal, with the exception of a slight thickening of the edge of one of the divisions of the tricuspid valve.

The right sac of the pleura contained a quart of serum; the left half a pint. There were a few old adhesions on the right side. The upper and middle lobes of the right lung were filled with small tubercles, and these lobes were as solid as liver. At the posterior part of the apex of the upper lobe, there was a cavity of the size of a large walnut. Three or four other small cavities were seen at the same part. The left lung contained a few tubercles. The top of the upper lobe was pretty solid, and was in a state approaching to carnification. This part was filled with serum. The lower lobe of the right side was tolerably healthy; as were also the lower parts of the left lung. The bronchial tubes over a considerable part of both lungs were of a dark red color; more generally through the right than through the left lung. There was a good deal of yellow mucus in the tubes, and considerable congestion of both lungs.

Abdomen.—The mucous coat of the stomach was mamillated over its entire surface; except about the cardiac orifice. The colour was normal.

The liver was rather darker than is natural. Other viscera normal. There was ossific deposit under the inner coat of the arteries, in various parts.

Remarks.—The murmur in this case must have been compound. There was, first, the direct murmur produced by the passage of the blood over the thickened and indurated mitral valve; and, second, the regurgitant murmur, from the return of the blood through the aortic orifice. Both of these murmurs are always associated with the second sound of the heart. What is remarkable, however, is, that the exit of the blood from the ventricle did not cause a murmur corresponding with the first sound of the heart. The blood passed over the same rough surface, going as returning, and we would look for an unnatural sound in the one case as well as in the other. It is true that in going out of the ventricle, the obstruction was not so great as in returning. In the passage out, there was no projecting ridge, against which the blood impinged; the base of the valves being attached to the heart, there was a continuity of surface. Whereas in returning, the margins of the three valves being raised out of the sinuses of Valsalva, and presenting an elevated and immovable ridge, the obstruction must necessarily have been very great.

CASE III. *Laryngitis.*—*Œdema of the Lungs.*—S. H., ætat. 33, negro, admitted March 7th—died March 17th, 1840. This man had been hostler at a tavern, was much exposed to cold and rain, and was in the habit of using ardent spirit freely. When admitted, he had a large foul ulcer on the inside of the left foot, at the root of the great toe; his left leg and thigh were œdematous, and enormously swelled, especially the leg. His breathing was quick and laborious, and he could articulate only in a hoarse whisper; his cough was not very distressing; his countenance expressed great anxiety; the pulse varied from 120 to 130 in the minute, and was full and rather firm; the tongue was dry, red, and cracked; the chest was generally dull on percussion, and the respiration was scarcely audible; there was a slight crepitation. He was bled to twelve or sixteen ounces, was moderately purged with salts and antimony, in divided doses, and then took five grains of blue mass, night and morning, with one grain of digitalis, and ten of nitre, three times a day. Fomentations, a blister, and emollient poultices were applied to the throat, and the mouth and fauces were frequently gargled with warm water; the free use of diluents was also enjoined. Under this treatment, the swelling of the thigh entirely disappeared, and that of the leg diminished considerably; the oppression of the breathing, however, was but little, if at all lessened; and the hoarseness continued to increase; he sank gradually, without any very perceptible aggravation of the symptoms.

Post-mortem, 24 hours after death.—*Thorax.*—There was serum in both of the pleural cavities;—about three pints in the left, and one pint in the right. There was slight redness of the pleuræ, with a small portion of lymph effused. The cellular tissue of both lungs was filled with serum,

which could be squeezed out as from a sponge. There was also a considerable quantity of serum in the bronchial tubes. The mucous coat of a few of the tubes was of a dark red colour; but in most of them it was but slightly reddened. The inner surface of the larynx was coated with mucopurulent matter, somewhat flaky, but of soft consistence. The epiglottis was of a dark red colour, and very much swelled, chiefly from effusion of serum in the sub-mucous coat. The vocal cords were also considerably swelled from the same cause; and the whole surface of the larynx was red and rough. The trachea was of a deep red color, down to the bronchial divisions, but was not coated either with mucus or pus.

Abdomen.—The mucous coat of the stomach was of a light slate color, over nearly its entire surface. Three patches of considerable size, were reddened, by congestion of the veins, and effusion of blood forming spots of ecchymosis. The mucous coat at these red places was softened. At the other parts it was thickened and hardened. The liver was somewhat enlarged, and of a greyish, yellow color, both externally and internally.

Remarks.—Laryngitis and bronchitis were unquestionably the beginning of the attack; the former was severe; the latter was mild. There was neither much cough nor expectoration; this proves that the bronchitis was not severe. The post mortem appearance of the bronchial membrane, shows the same state of things. It was but slightly reddened through the greater part of the tubes. The serous diathesis was strongly marked, and as a consequence, effusion of serum took place, before the inflammation ran high. The light slate colour of the mucous coat of the stomach, the ecchymosis, and red softening of some parts, the thickening and induration of other parts, and the enlargement and yellowness of the liver, were all the effects of habitual drunkenness. By the same cause, the strong predisposition to hydropic effusion was produced. As soon, therefore, as inflammation was set up, the congested capillary arteries and veins poured out serum; and long before the inflammation reached the point when lymph would be secreted. As regards the treatment of the foregoing case, although the hydropic diathesis was strongly marked, in which condition bloodletting is contra-indicated, yet as the laryngitis was considered so important a part of the disease, and as the pulse, notwithstanding its frequency, was full and pretty firm, a moderate bleeding was thought to be advisable. The diuretics and mercurials acted well, as was shown by the disappearance of the swelling of the thigh, and the diminution of that of the leg; and if there had not been so much derangement of the stomach and liver, accompanied by so great a degree of the serous diathesis, the laryngitis and bronchitis might have been cured, and the effused fluid, both in the lungs and lower extremity have been made to disappear. If the œdema of the lungs had not been associated with laryngitis, a complication very uncommon, inasmuch as bronchitis seldom or never occurs at the same time with laryngitis, the case

would have been much less difficult of management, and the probability of a favourable termination much greater. As it was, the prognosis was as unfavourable as could be given.

CASE IV. Paralysis of the Left Side of the Trunk and Extremities, and of the Right Side of the Face.—S. G., *ætat.* 28, negro, admitted April 7th, died June 5, 1840. She had followed the business of a washerwoman, and her health, previous to this attack, was good. On the 14th of May, 1839, while engaged in washing, was suddenly seized with an acute pain of the right side of the head, and fell down in a state of insensibility, in which state she remained during twenty-four hours. When she recovered her senses, she found she had entirely lost the power of moving her left arm, and in a great degree that of moving the leg of the same side. The right side was unaffected, with the exception of the face, the muscles of which had become paralyzed; those of the left side of the face still retained their accustomed power of motion; when her tongue was thrust out, it inclined very much to the right side; the sensibility of the left side was destroyed, and likewise that of the right side of the face; she could not hear with the right ear. The right eye became inflamed several weeks before her death, and the cornea was slightly ulcerated; the upper eyelid was constantly raised. When she attempted to speak her muttering was scarcely intelligible; paralysis of all the parts affected was complete; deglutition and mastication were performed with great difficulty.

Post mortem examination twelve hours after death. *Brain.*—There was venous congestion of the surface, and of the medullary centres of the hemispheres of the cerebrum. There was a fibrous, semi-cartilaginous tumour on the right side of the tuber annulare and medulla oblongata, seated in the substance of the dura mater, arachnoid membranes and the pia mater. It extended from the point where the fifth pair of nerves arises from the tuber annulare, covered the origin of this nerve and the whole of the right side of the tuber below this, and passed down along two-thirds of the medulla oblongata, and adhered to the right side of the basilar artery. The right vertebral artery was enclosed in the substance of the tumour. It was about two inches long. The surface of the root of the right crus cerebelli, on which it pressed, was softened, as was also that part of the tuber annulare, on which it lay. It was incorporated with the substance of the right side of the medulla oblongata, and had produced softening as far as it reached. This softening extended through the posterior tract, but became less as it approached the posterior surface. The anterior tract was a pulpy mass. Neither the anterior nor the posterior tract of the left side was perceptibly affected. The tumour pressed upon, and had caused softening of the roots of the fifth, seventh, eighth and ninth pairs of nerves. The bone was rough about the foramen lacerum posterius, and the condyloideum anterius.

The viscera of the thorax and abdomen were sound, with the exception of the liver, which was of a yellow colour.

Remarks.—The symptoms, in the case given above, corresponded very exactly with the seat and extent of the disease. The right side of the medulla oblongata was softened to the extent of complete disorganization. There was complete paralysis of both motion and sensation on the left side. The decussation of the fibres of the corpora pyramidalia, explains the loss of motion of the opposite side; but as we have no facts proving a similar interlacement of the fibres of the posterior or sensory tract, it is not so easy to discover how it happened that the right side was not deprived of sensation. Motion and sensation were unimpaired in the extremities of the side diseased; they were both destroyed in the same parts of the opposite or left side. Are we not justified, from this, in making the inference, that there is a decussation of the filaments of sensation, as well as those of motion?

The fifth pair of nerves is formed, on each side, of two sets of filaments, viz., one for motion, the other for sensation. The former take their origin from the intercerebral commissure, which lies between the cerebrum and cerebellum, and is composed, in part, of the valve of Vieussens; while the latter can be traced down the posterior columns of the spinal cord, about an inch and a half below the tuber annulare. They were both pressed upon, by the upper part of the tumour, at the point of their emergence from the tuber, and the sensory portion, was involved in the general destruction of the texture of the medulla oblongata. The motory filaments being distributed to the muscles concerned in the motions of mastication, viz., the masseter, temporal, pterygoid, and buccinator, and those of the right side being paralyzed, the power of masticating food, was consequently rendered imperfect. The sensory portion, distributing its filaments to the mucous membrane of the nose, of the palate, the pulpy structure of the teeth in both jaws, the papillæ of the tongue, many parts contained within the orbit, the lachrymal apparatus, the conjunctiva &c., and the skin covering the face, all these parts were necessarily deprived of sensibility. The seventh pair, formed under the old division of the facial and auditory nerves, or of the portio dura and portio mollis, is attached to the medulla oblongata, between the corpus pyramidale and olivare, just below the pons Varolii, and was involved in the disorganized mass. The facial nerve supplies the muscles of the face, including the orbicularis palpebrarum. The paralysis of this muscle prevented the closure of the eyelids; and the consequent exposure of the eye to particles of dust contained in the air, with the diminished sensibility of the conjunctiva, from the paralysis of the sensory portion of the fifth pair, the eye not feeling the irritation, of course no tears were secreted to wash out the irritating matter, explains the inflammation of the conjunctiva with ulceration of the cornea. The auditory nerve being destroyed,

there was deafness of that ear. The glosso-pharyngeal, par vagum, and spinal accessory nerves, were all destroyed. The first supplies the muscles of the pharynx and tongue; the second distributes motor filaments to the larynx, furnishing the muscles concerned in the production of vocal sounds, with motory power. The ninth, or lingual nerve, was likewise included in the disorganised mass. It goes to the muscles of the tongue, and also to those of the os hyoides. The muscles of the larynx and tongue of one side, having thus lost their power of motion, speech and deglutition were rendered imperfect. The genio-hyo-glossus of the opposite side, retaining its power of acting under the will, pushed the tongue to the right side when it was thrust out. We thus have a satisfactory explanation of the whole extent of the paralytic affection.

CASE VI. Pleuræ Pneumonia.—Pneumo-Thorax.—Gangrene of the Lungs.—M. R., ætat. 19, admitted May 2d—died May 3d, 1840. This girl was a prostitute, and the persons who brought her to the institution, said she had been ill two weeks; she was delirious, and incapable of giving any account of herself; she had been attended by a physician, but no information as to the treatment adopted could be procured; she was very restless, and was constantly talking and groaning; the skin and white of the eyes were of a bright yellow colour; tongue dry, and coated with a yellowish brown fur; teeth covered with dark brown sordes; respiration frequent, but not laborious; pulse 120, and of tolerable strength; there was general dulness of the chest, on percussion, with feeble respiration. Eight ounces of blood were taken from her arm, and she was ordered two grains of calomel every two hours until it purged. Early the next morning, her breathing suddenly became very laborious, and in the afternoon was extremely so, accompanied by great heaving of the chest; pulse 120, full, but incompressible. She was ordered infusion of serpentaria, with camphor julep; she died that night.

Post-mortem, 12 hours after death.—Brain.—There was great congestion of the large veins of the surface of the hemispheres, and numerous, and large red points were visible, on slicing the medullary substance. *Thorax.*—On cutting into the left cavity of the chest, air rushed out with a whizzing noise. The left lung was pressed close to the spine, and was of a dark brown, and in spots, of a black colour, and had a coating of dark brown lymph, tinged with yellow, over nearly its whole surface. Eight or ten spots, some as large as a walnut, were in a state of sphacelus; and were reduced to a black, soft, pulpy mass. These, when cut into, gave out a very fetid gas. The pleura had given way over one of them, and air had escaped; the larger part of this lung was hepatized. The bronchial tubes were of a dark red color. The right lung presented the same appearances, but in a less degree. Only two or three spots were gangrenous, and hepatization had not advanced so far. *Abdomen.*—The mucous coat of the stomach was considerably congested. That of the small intestines in a slight degree; the other viscera were normal.

Remarks.—This case which I have just narrated, is remarkable for the extent of the disease, and the occurrence of hepatization between the gangrenous spots. Both lungs would appear to have been very generally affected with pneumonic inflammation; which being improperly treated, and the constitution having been greatly debilitated by previous excesses, it passed rapidly into gangrene. Hepatization took place over all the spaces between the gangrenous spots. If the vital powers had not been so greatly impaired by a long course of dissipation, the pneumonia would have passed on to its ordinary third stage, viz., purulent infiltration. There would appear not to have been sufficient energy to elaborate pus. It is surprising, too, that there was neither cough nor expectoration. The delirium was the prominent symptom, which made me suppose that the brain was the organ chiefly implicated. Dissection showed congestion of the brain, but not in sufficient degree to have proved fatal. If, instead of exhibiting incoherent muttering and groaning as the prominent symptoms, she had been harassed with incessant cough, accompanied by fetid expectoration, the case would have been plain enough. As it was, the attention was drawn off from the lungs to the brain. It should, however, be remembered, that fœtor of the sputa alone, is not pathognomic of gangrene of the lungs. It is true, that the breath and sputa, are, in this disease, from the first, nearly as offensive as when the fœtor becomes of the true gangrenous character. This is owing to the depraved condition, both of the fluids and solids. But it is well known, that this state of things often occurs where gangrene of the lungs does not exist. Dr. Elliotson says that the fœtor of the breath and of the sputa, are not to be depended upon. He has seen other diseases attended with extreme fœtor, but without gangrene; and he has seen extreme fœtor of the breath and sputa without any danger whatever. Sometimes in bronchitis, the fœtor both of the breath and sputa will be very great. He mentions the case of a young lady, who was in tolerably good health, except that she spit up a little; and this expectoration was horribly offensive; so that to stand near her was extremely unpleasant; yet she was walking about, and looking well. He saw a case of this fœtor of the sputa, and smelling of the breath, in a person who died of phthisis; and in this disease, the matter formed occasionally has the fœtor of fæces. Dr. Elliotson is of opinion, that there is no danger, necessarily from the extreme fœtor of the sputa; neither is there necessarily gangrene. But if, conjoined with this, the sputa are observed to be bloody, brownish, or greenish—something like the discharge from a sloughing part; and when any thing like green fragments of lymph are seen, together with a weak pulse, an elongated countenance, and a cadaverous aspect; in short, when the patient is in the state in which we see people when they are sinking from mortification of any other part; there can be no doubt of the nature of the disease. It is to be apprehended, that too great importance has been attached to the fœtor of the sputa; and that cases have been pronounced gangrene of the lungs, when in reality this disease was not present.